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Memorandum

Date: January 29, 1996

To: Lester A. Snow
Program Team

From: Steve Yaeger, Program Deputy Director
CALFED Bay-Delta Program

Subject: Modifications to 1/23 Alternative Package

I propose that the following elements be added to the alternatives to provide more balance from a water supply and a wildlife viewpoint - general elements for all alternatives:

- Add language which states that a wildlife habitat corridor plan will be developed and that implementation of the Delta Levee Habitat and Delta Habitat Restoration will be coordinated with this corridor plan.

- In all alternatives where "Channel Improvements and Levee Maintenance" and/or the highest level of Flood Protection for Delta Islands are specified and/or channel improvements or isolated facilities are specified in the North or East Delta, these elements should be modified to include additional capacity to pass flood flows where improvements are proposed for the North Delta and the Mokelumne system.

Alternative 1 - Reduce Exports with New Supplies

While this alternative contains demand management elements and water transfer elements, it needs some additional elements to make it more effective. The demand management elements and habitat restoration elements of this alternative need to be tied to a staged adaptive management program which sets milestones for the implementation of these elements, monitors to verify effectiveness, and then stages in more liberal summer and fall export ratios (tied to both implementation and verification of effectiveness of habitat and demand management elements) which then make it

possible to implement a higher level of water transfer. At the highest target milestone there should be some actions provided which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

Alternative 4 - Habitat Restoration

This alternative relies mainly on the increased reliability benefits derived from habitat restoration for its water supply benefits (with a small amount of emphasis on conveyance improvements). While there is some agreement among experts that within a period of three years or so there could be sufficient benefits to fishery populations such that water supply reliability would be increased, the level of comfort of the water agencies with these assurances needs to be reinforced. Consequently, I propose that the following elements be added:

1. A staged program of successively more liberal summer and fall export ratios (tied to both implementation and verification of effectiveness of habitat elements) to facilitate higher levels of water transfer.

2. An adaptive management program to verify this effectiveness and modify both habitat restoration and export ratio increases, if necessary.

3. Some actions should be tied to the highest water transfer rates which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

4. While the levees are being stabilized, buffer zones to control subsidence should be coupled with wetlands for habitat enhancement and shallow wetlands which store agricultural drainage, and have sufficient regulatory storage that return of agricultural drainage to the channels can be coordinated with flood flows for dilution and the consequent water quality improvements.

Alternative 5 - Habitat Restoration with Dedicated Environmental Water

Add same elements as Alternative 4.

Alternative 6 - Extensive Habitat Restoration with New Storage

Add the same elements as in Alter. 4 with the exception that the island storage in the Delta should be sited and designed so that the storage can be used both for fisheries enhancement and for establishing the hydraulic barrier necessary to facilitate water transfers (once the highest staging level is reached).

Alternative 17 - Protection of Delta Islands and Functions

Add the following elements:

1. A staged program of successively more liberal summer and fall export ratios (tied to both implementation and verification of effectiveness of habitat elements) to facilitate higher levels of water transfer.

2. An adaptive management program to verify this effectiveness and modify both habitat restoration and export ratio increases, if necessary.

3. Some actions should be tied to the highest water transfer rates which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

4. While the levees are being stabilized, buffer zones to control subsidence should be coupled with wetlands for habitat enhancement and shallow wetlands which store agricultural drainage, and have sufficient regulatory storage that return of agricultural drainage to the channels can be coordinated with flood flows for dilution and the consequent water quality improvements.

Alternative 18 - Delta Island Protection with Storage
Add the following elements:

1. Increased Permitted Diversion Capability consistent with efficient use of in-Delta storage.

2. Some actions should be tied to the highest water transfer rates which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

3. While the levees are being stabilized, buffer zones to control subsidence should be coupled with wetlands for habitat enhancement and shallow wetlands which store agricultural drainage, and have sufficient regulatory storage that return of ag drainage to the channels can be coordinated with flood flows for dilution and the consequent water quality improvements.

Alternative 19 - Pollutant Source Controls and Operational Changes

Add the following elements:

1. A staged program of successively more liberal summer and fall export ratios (tied to both implementation and verification of effectiveness of habitat elements) to facilitate higher levels of water transfer.

2. An adaptive management program to verify this effectiveness and modify both habitat restoration and export ratio increases, if necessary.

3. Some actions should be tied to the highest water transfer rates which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

4. Increased Permitted Diversion Capability consistent with water transfer development.

5. Some actions should be tied to the highest water transfer rates which reduce water costs to provide the hydraulic barrier needed to ensure water quality in late summer and fall (such as releases into the west Delta from an island reservoir which is filled from recycled water from a project such as the Bay Area Recycling Project or such as selective channel improvements).

6. *While the levees are being stabilized, buffer zones to control subsidence should be coupled with wetlands for habitat enhancement and shallow wetlands which store agricultural drainage, and have sufficient regulatory storage that return of ag drainage to the channels can be coordinated with flood flows for dilution and the consequent water quality improvements.*

Alternative 20 - Source Controls with Added Storage

Same additions as in Alternative 19 with the following additions:

1. Channel improvements consistent with efficient utilization of the added storage would greatly improve the water quality benefits and water supply benefits of this alternative.